

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

GREEN MOUNTAIN GLASS, LLC AND  
CULCHROME, LLC,

Plaintiffs,

v.

SAINT-GOBAIN CONTAINERS, INC. d/b/a  
VERALLIA NORTH AMERICA,

Defendant.

C.A. No. 14-cv-00392-GMS

JURY TRIAL DEMANDED

**PLAINTIFFS' OPENING CLAIM CONSTRUCTION BRIEF**

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Plaintiffs Green Mountain Glass, LLC and Culchrome, LLC (collectively, “Green Mountain”) hereby submit this Opening Claim Construction Brief, in accordance with the Court’s scheduling order. D.I. 45.

**I. OVERVIEW OF PATENTED INVENTIONS**

Green Mountain asserts that Defendant Ardagh infringes claims of U.S. Patent Nos. 5,718,737 (the “’737 patent”) and 6,230,521 (the “’521 patent”). The two patents-in-suit cover technology that enables glassmakers to use recycled glass pieces of two or more colors—called “mixed colored cullet”—in the production of glass of a particular color. Replacing conventional raw materials with this mixed colored cullet yields significant cost savings to the commercial glassmaker. Not only is mixed colored cullet environmentally responsible and cheaper than the raw materials it replaces, using it also saves energy, extends furnace life, reduces emissions, and allows for increased production.

Although glassmakers have long recycled cullet into new glass products, prior to the inventions disclosed in the asserted patents, they did not use more than an insignificant amount of mixed colored cullet in any given batch. Instead, their use of cullet largely matched the color of the glass they were producing. The limitation was one of glass chemistry: the colorants that inhere in the broken pieces of glass—*i.e.*, what makes a Heineken beer bottle green or a Budweiser beer bottle amber—are still present when the cullet is re-melted in a new glass batch and can affect the color of the final glass product. And because the properties that make a Heineken bottle green are different from the properties that make a Budweiser bottle amber, it was counterproductive to use a significant amount of broken pieces of one color in the production of the other color. Accordingly, the prior art saw mixed colored cullet as a contaminant, not as a viable raw material.

Glassmakers desiring to use cullet thus had one of two options: use only a negligible amount of mixed colored cullet in any given batch (the so-called “dilution is the solution” method) or use only color-sorted cullet (i.e., single-color cullet). Both options significantly limited the cost-savings potential that cullet offered large-scale glassmakers. Although recyclers made available a significant quantity of mixed colored cullet, the “dilution is the solution” method severely capped the amount of mixed colored cullet that was usable in any given batch.

Color-sorted cullet also was not a viable solution. Not only was color-sorted cullet more expensive than mixed colored cullet, but color-sorted cullet only worked where the glassmaker intended to produce a bottle that matched the color of the cullet. This limitation significantly reduced the amount of cullet available for use by the glassmaker in a furnace because the needs of glassmakers for that furnace often did not match the color of the available cullet.

The asserted patents changed this dynamic by resolving the underlying problem of glass chemistry. The '737 patent issued first. It is a continuation application from the abandoned application numbered 08/399,299 (the “'299 Application”). The '737 patent teaches the use of decolorizing techniques, which adjust the undesired colors in the mixed colored cullet.

The '521 patent—which does not share an inventor with the '737 patent—was filed shortly after the '737 patent issued. It builds on the '737 patent's invention. Specifically, the '521 patent teaches glass processing methods to determine a precise recipe for the “batch”; that is, determining the amounts of the raw materials, the colorizing and decolorizing agents, and the mixed colored cullet. Both of the patents-in-suit allow glassmakers to produce commercial-quality containers from glass batches containing significant amounts of mixed colored cullet.

Defendant attempts to avoid infringement by proposing strained constructions that are inconsistent with the intrinsic evidence, that import limitations from thin air or from mis-

readings of the patent prosecution history, and that ignore the plain meaning of commonplace, nontechnical words. Green Mountain, by contrast, proposes either no construction, or a construction based on the terms' plain and ordinary meaning. *See Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1206–07 (Fed. Cir. 2010) (affirming this Court's rejection of defendant's "'unjustifiably narrow'" construction in favor of "'plain and ordinary meaning'").

## **II. LEGAL PRINCIPLES OF CLAIM CONSTRUCTION**

Claim construction is a legal question and claims are construed from the perspective of a person of ordinary skill in the art. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 391 (1996). Courts consider the claim language first. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). No "elaborate interpretation" is needed for nontechnical terms whose ordinary meanings are apparent. *Id.* at 1314 (quotation omitted). In addition to the language of the claims, it is "entirely appropriate" for a court "to rely heavily on the [specification] for guidance as to the meaning of the claims." *Id.* at 1317. The specification is "[u]sually . . . dispositive; it is the single best guide to the meaning of a disputed term." *Id.* at 1315.

Prosecution history may also be helpful, though "it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.* at 1317. Where, as here, the accused infringer relies upon prosecution history in an effort to limit the meaning of the claims, the accused infringer must point to "a clear and unmistakable disavowal of scope during prosecution." *Purdue Pharma L.P. v. Endo Pharm. Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006).

## **III. TERMS FOR CONSTRUCTION**

None of the terms requires construction—and certainly not the limiting constructions that Defendant proposes. To the extent construction is warranted, Green Mountain provides alternatives based on plain and ordinary meaning, supported by intrinsic evidence.

A. “Mixed Color[ed] Cullet” / “Mixed Color[ed] Glass Cullet” / “Unsorted Mixed Color[ed] Cullet”

Claim Language	Green Mountain’s Proposed Construction	Defendant’s Proposed Construction
“unsorted mixed color glass cullet” <ul style="list-style-type: none"> <li>’737 claims 1, 9, 18</li> </ul> “mixed color cullet” or “mixed color glass cullet” <ul style="list-style-type: none"> <li>’737 patent claims 1, 2, 9, 11, 18, 20</li> <li>’521 claims 1, 2, 7, 9, 17, 26, 27, 28, 30, 31</li> </ul>	“broken pieces of glass of mixed colors”; in the alternative, no construction needed	“ <b><u>post-consumer</u></b> broken pieces of glass of mixed colors <b><u>that have never been sorted by color</u></b> ”

The patents use the terms “unsorted mixed color glass cullet”, “mixed color glass cullet”, and “mixed color cullet” interchangeably (along with variations that replace “color” with “colored”). Compare, e.g., JA Ex. 1, ’737 claim 1 (“obtaining *unsorted mixed color glass cullet* having glass of at least two different colors;” (emphasis added)), with *id.* claim 2 (“A method as in claim 1, wherein said obtaining step comprises the step of obtaining *mixed color cullet* comprising flint, green and amber colored glass.” (emphasis added)). The ’521 patent does not use the word “unsorted” at all, instead using “mixed color glass cullet” and “mixed color cullet,” together with variations that replace “color” with “colored.” See, e.g., JA Ex. 2, ’521 claim 1 (preamble) (“creating recycled glass products of a particular color from . . . mixed color glass cullet”); *id.* claim 17 (“glass bottle including recycled mixed color cullet”); *id.* Col.1:19 (“mixed colored cullet”); *id.* 3:21 (“mixed colored glass cullet”).

Although the parties dispute the meaning of these variations, they agree that they are used interchangeably and should receive the same construction. See D.I. 58 (Joint Claim Chart at 3); see also *Bid for Position, LLC v. AOL, LLC*, 601 F.3d 1311, 1317 (Fed. Cir. 2010) (“The claim language uses the terms ‘bid’ and ‘value of the bid’ interchangeably, such that the two cannot be read to have separate meanings.”). Accordingly, Green Mountain refers to all variations as



“mixed colored cullet” because that phrase appears in the title of the patents. *See* JA Ex. 1, ’737 Patent (“Method of Recycling *Mixed Colored Cullet* into Amber, Green, or Flint Glass” (emphasis added)); *cf.* JA Ex. 2, ’521 Patent (“Method of Recycling Batches of *Mixed Color Cullet* into Amber, Green, or Flint Glass with Selected Properties” (emphasis added)).

To construe “mixed colored cullet,” the Court need look no further than the opening paragraphs of the patents where the inventors defined the term: “The invention more particularly relates to methods and compositions whereby *mixed colored cullet glass (i.e., broken pieces of glass of mixed colors and types)* can be recycled to make useful glass products.” JA Ex. 1, ’737 1:12-16 (emphasis added); JA Ex. 2, ’521 1:11-12 (“mixed colored cullet glass (i.e., broken pieces of glass of mixed colors and types)”). By placing “i.e.” before the phrase “broken pieces of glass of mixed colors and types,” the inventors signaled the phrase was “a definition instead of an example.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1373 (Fed. Cir. 2014) (noting a “phrase [is] cast as a definition” if it is “preceded by ‘i.e.’” in the specification); *see also Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1334 (Fed. Cir. 2009) (“[T]he specification’s use of ‘i.e.’ signals an intent to define the word to which it refers . . .”).

This definition of “mixed colored cullet,” taken straight from the specification, should end the inquiry. Indeed, the parties agree that “mixed colored cullet” refers to “broken pieces of glass of mixed colors.” Defendant proposes, however, that the term “mixed colored cullet” should be narrowed to include only “post-consumer” cullet that has “never been sorted by color.” For the reasons that follow, the Court should reject both additional limitations and instead adopt the definition from the specification (or, in the alternative, rule that no construction is needed).

**1. No support exists for the “post-consumer” limitation**

The claims never use the term “post-consumer.” *“Had the inventors intended this limitation, they could have drafted the claims to expressly include it.”* *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 843 (Fed. Cir. 2010) (emphasis added), *aff’d*, 131 S. Ct. 2238 (2011).

The specifications, in describing the patents’ preferred embodiments, indicate that although *some* “mixed colored cullet” is “post-consumer,” not all of it is: “The mixed colored cullet glass is *generally* reclaimed, post-consumer glass, *although the glass producer waste cullet can also be mixed therewith . . .*” JA Ex. 1, ’737 4:12-16 (emphasis added); JA Ex. 2, ’521 8:2-4 (same); *see also* JA Ex. 1, ’737 1:41-43 (“Other waste glass, e.g., off-quality material and scrap from the manufacture of glass products, may also be re-used . . .”). “Glass producer waste cullet” is not “post-consumer.” Defendant is thus trying to exclude from the claims the “glass producer waste cullet” that the specification indicates may compose mixed colored cullet in the patents’ preferred embodiments. “[A] claim interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct.” *Accent Packaging, Inc. v. Leggett & Platt, Inc.*, 707 F.3d 1318, 1326 (Fed. Cir. 2013) (quotation omitted) (reversing district court’s limiting construction because that construction would have excluded the preferred embodiment).

**2. No support exists for the “never been sorted by color” limitation**

The Court should also reject Defendant’s attempt to limit mixed colored cullet to cullet that has “never been sorted by color.” Defendant likely will argue for this limitation because some of the ’737 claims—though none of the ’521 claims—use a variation of the term “mixed colored cullet” that contains the word “unsorted” before “mixed colored.” Defendant appears to

argue that the word “unsorted” means “never been sorted by color.” This argument is wrong for at least six independent reasons.

*First*, Defendant’s concession that “unsorted mixed colored cullet” has the same meaning as “mixed colored cullet” resolves the issue. The term “unsorted” never appears in the ’521 patent. Imposing any type of sorting requirement flies in the face of this claim language. And because Defendants admit that the term “unsorted” does not change the definition of “mixed colored cullet,” this argument applies equally to the ’737 patent.

*Second*, the ’737 patent’s claims and specification demonstrate the interchangeable use of “mixed colored cullet,” “mixed colored glass cullet,” and “unsorted mixed colored cullet.” The word “unsorted” does not change the meaning of “mixed colored cullet.” For example, the below comparison of the language in independent claim 1 and dependent claim 2 (both from the ’737 patent) shows that the terms are used interchangeably: while independent claim 1 recites “obtaining *unsorted* mixed color glass cullet,” dependent claim 2, in referencing that “obtaining,” omits the word “unsorted” and refers simply to “obtaining mixed color cullet”:

“*obtaining unsorted mixed color glass cullet* having glass of at least two different colors;” (claim 1) . . . .

“A method as in claim 1, wherein said obtaining step comprises the step of *obtaining mixed color cullet* comprising flint, green and amber colored glass.” (claim 2)

JA Ex. 1, ’737 (emphasis added). The ’737 specification uses the word “unsorted” just once, in a way that confirms that this word does not change the meaning of “mixed colored cullet.”

*Compare* JA Ex. 1, ’737 3:58-59 (“amber colored glass in the *unsorted mixed color cullet* may be decolorized”), *with id.* at 3:50-51 (“another object of the invention” is “to decolorize the green component glass in *mixed color cullet*”). And its use of “sorted” refers to color-sorted glass. *Id.* at 1:50-67; 2:9; 3:41-44. Occasionally adding the word “unsorted” before “mixed color” is thus

no different from the patents' practice of sometimes referring to "cullet" and other times to "glass cullet," which both refer to the same item (*i.e.*, all cullet is glass).

*Third*, the '737 patent's context confirms that the word "unsorted" refers to the cullet's current state, rather than to its prior history. *None* of the '737 or '521 claims include a prior temporal limitation, and indeed the '521 claims do not use "unsorted" at all. Instead, the claim language is silent on the origin of the mixed colored cullet. It makes no difference for the patents' methods whether the pieces were "sorted by color" at some earlier point in time. The relevant question is whether the cullet is unsorted at the time glassmakers are using it in their batches in place of other raw materials. The breakthrough disclosed in the '737 patent is that glassmakers can mix cullet of more than one color to make glass of a single color. Whether the cullet has previously been sorted makes no difference in whether the cullet is mixed at the time it enters the batch. The patents do not require a prior temporal limitation.

*Fourth*, the plain meaning of the word "unsorted" is not "never been sorted." The plain meaning of the word is "not sorted"—a meaning that refers to the present state of the substance, not to its history. *E.g.*, Shepard Decl., Ex. 1, *Webster's Third New International Dictionary*, "Unsorted" (Merriam-Webster 1986) ("1: not sorted or classified"); *see also* Shepard Decl., Ex. 2, *Oxford English Dictionary*, "Unsorted" (Oxford University Press 2015) ("1. Not arranged or put in order."). Unmatched socks are unsorted even if they previously were matched and sorted.

*Fifth*, here again Defendant's limitation would exclude an embodiment of the '737 patent. As discussed above, the patents' preferred embodiments explicitly contemplate that a glassmaker may "mix[]" "glass producer waste cullet" to make mixed colored cullet. JA Ex. 1, '737 4:14-16; JA Ex. 2, '521 8:2-4. "Glass producer waste cullet" is inherently sorted by color because it is the single-color waste glass that results from one furnace. Defendant's proposed construction

thus errs by excluding that embodiment. *See Accent Packaging*, 707 F.3d at 1326; *Phillips*, 415 F.3d at 1321.

*Sixth*, Defendant has zero support for importing the “never been sorted” limitation into the ’521 patent because that patent does not even use the phrase. Defendant’s only argument appears to be that because the ’521 patent cites the earlier ’737 patent, and uses some similar language in its specification, all of Defendant’s arguments as to the ’737 patent should apply with equal force to the ’521 patent. That is not the law. “[C]ourts must take care not to import limitations into the claims from the specification.” *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009). It is even less appropriate to import limitations from one patent into another patent family with a different inventor merely because the second patent cites the first.

Set against these six reasons, Defendant appears to rely solely on statements made during the ’737 patent’s prosecution. But the prosecution history does not show any “disavowal” of the use of previously sorted cullet, and especially not “a clear and unmistakable disavowal.” *Purdue Pharma*, 438 F.3d at 1136; *see also Creative Integrated Sys., Inc. v. Nintendo of Am., Inc.*, 526 F. App’x 927, 934 (Fed. Cir. 2013) (reversing district court’s claim construction because district court improperly limited the scope of the claim language based on a statement during prosecution that, while “describ[ing]” one “embodiment” of the invention, “disavows nothing”). And regardless, any statement in prosecution cannot apply to the ’521 patent—a different patent with a separate prosecution history.

The ’737 applicant added the word “unsorted” as part of a redrafting of the claims. That overhaul came in response to the Examiner’s rejection of the ’299 Application. The Examiner had misread the ’299 Application as making an “admission” that “mixed color cullet is used in the glassmaking art.” JA Ex. 4, Patent Application ’299, Preliminary Rejection (Mar. 12, 1996)

at A0090. The Examiner was wrong, as the applicant pointed out in his letter accompanying the continuation application (which became the '737 patent): far from admitting the use of “mixed colored cullet” in the prior art, the '299 Application had instead admitted the use of *color sorted* cullet in the prior art. “[W]hile sorted single color glass cullet has indeed been recycled into new glass products, the unsorted mixed color glass cullet has not, to Applicant’s knowledge, been recycled into new glass products of a particular color.” JA Ex. 5, '737 Patent File History [Preliminary Amendment] (Sept. 18, 1996) at A0110. Indeed, this sentence shows the applicant using “unsorted” as a description of “mixed color glass cullet” and as a contrast to the prior art “sorted single glass cullet.” The applicant added “unsorted” to the claims to emphasize the difference between the invention and the prior art teaching the use of *color sorted* cullet. The applicant maintained his full claim to the use of mixed colored cullet: “[T]here is no indication in the prior art that one skilled in the art would know to use mixed color glass cullet as a starting material.” *Id.* at A0111. Far from a disavowal, the prosecution history supports Green Mountain because the applicant uses “unsorted” interchangeably with “mixed color glass cullet.”

#### B. “At Least Two Different Colors”

Claim Language	Green Mountain’s Proposed Construction	Defendant’s Proposed Construction
“at least two different colors” (’737 claims 1, 9, 18)	No construction needed; in the alternative: “more than one color”	“[at least] two different colors <u>(not including flint)</u> ”

The term “at least two different colors” is straightforward and should not be construed because any juror can understand the term as written. With an eye toward avoiding infringement, Defendant’s proposed construction seeks to add a limitation that appears nowhere in the claim language or the specification—that flint cullet should not count as a color of cullet. Defendant’s proposed construction fails for a number of reasons.

The claims define flint cullet as a color of cullet. In fact, flint is one of the three colors of cullet discussed in the patent, along with amber and green. For example, claim 2 defines flint as a “colored glass” in “mixed color cullet.” JA Ex. 1, ’737 claim 2 (“A method as in claim 1, wherein said obtaining step comprises the step of obtaining mixed color cullet comprising *flint*, green and amber *colored glass*.” (emphasis added)). “Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims.” *Phillips*, 415 F.3d at 1314; *see also Wright Med. Tech., Inc. v. Osteonics Corp.*, 122 F.3d 1440, 1445 (Fed. Cir. 1997) (“[W]e must not interpret an independent claim in a way that is inconsistent with a claim which depends from it.”).

The specification also defines flint as a color. For example, the specification states, “[a] similar technique may be used to produce recycled green or *flint colored bottles* and the like.” JA Ex. 1, ’737 4:4-6 (emphasis added). The specification also confirms that flint is one of three primary colors in a “typical mixed color cullet.” *Id.* 2:1-5 (“A typical *color distribution* is approximately 65% *flint (colorless)*, 20% amber, and 15% green.” (emphasis added)).

The joint claim chart shows that Defendant will rely on certain statements in the specification referring to flint as “colorless” glass. *See* D.I. 58 (Joint Claim Chart at 3). But the fact that a flint bottle is described as “colorless” does not mean that the inventor intended to exclude flint as a “color” when referring to cullet “having glass of at least two different colors.” Indeed, the very statements that describe flint as “colorless” also show that “mixed color cullet” is comprised of green, amber, and flint glass. *E.g.*, JA Ex. 1, ’737 3:29-31; *id.* at 2:3-5 (noting the “typical color distribution” includes flint, amber, and green).

### C. “Specifying . . . Transmission Properties”

Claim Language	Green Mountain’s Proposed Construction	Defendant’s Proposed Construction
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Claim Language	Green Mountain's Proposed Construction	Defendant's Proposed Construction
“specifying, prior to melting of said mixed color glass cullet, transmission properties of said recycled glass products of said particular color;”  ('521 claims 1, 26, 28, 30) [STEP 5]	No construction needed; in the alternative: “identifying the intended transmission properties”	“specifying, prior to melting of said mixed color glass cullet, transmission properties of said recycled glass products of said particular color <b><u>sufficient to define said particular color;</u></b> ”

The '521 patent enables glassmakers to calculate the amounts of the ingredients required to make glass products of a single color from mixed colored cullet. Before doing so, they must first “specify[] . . . transmission properties of said recycled glass products.” The disputed term—“transmission properties”—refers to certain properties of the finished glass product. The claims and the specification provide examples of these transmission properties, including:

- the “thickness of a finished glass product,” JA Ex. 2, '521 claim 5; *id.* 4:45;
- the “optical transmission of [the] finished glass product at [a certain wavelength],” *id.* claim 3; *id.* 4:48;
- the “neutral density transmission for a finished glass product,” *id.* claim 7; *id.* 4:64; and

These examples indicate that the term “transmission properties” refers to properties of the finished glass product. The glassmaking treatise cited in the patent discusses these examples. *See, e.g.*, JA Ex. 8, Samuel R. Scholes, *Modern Glass Practice*, Chapter 17: “Color” (1975) at A0162 (discussing “transmission” in terms of “wave length”, “thickness of the glass”, and “density”); JA Ex. 1, '737 5:1; JA Ex. 2, '521 8:55 (citing treatise).

Defendant's proposed construction again proposes a limitation on the term “transmission properties” that is nowhere found in the claims or the specification—that the transmission properties be “sufficient to define said particular color” of the finished glass product. The claims do not require that the transmission properties be sufficient to define the color. In fact,



Defendant's limitation does not make sense when read in conjunction with the examples of transmission properties identified in the patent. For example, how can "the thickness of the final glass product" be "sufficient to define" a color? And Defendant's proposal would add confusion, not clarity, to the patent's meaning, by requiring the jury to answer an additional question: what "suffices" to "define" a color?

**D. "Glass Coloring Oxide Agent"**

<b>Claim Language</b>	<b>Green Mountain's Proposed Construction</b>	<b>Defendant's Proposed Construction</b>
"glass coloring oxide agent" ( '521 claims 1, 26, 28, 30)	No construction needed; in the alternative: "an agent that affects the color of glass"	"[1] a selected virgin glass raw material [2] included for the sole purpose of [3] providing an oxide that [4] affects the color of the recycled glass products"

The levels of colorizing and decolorizing agents in the finished glass product are central to the inventions taught in the '521 patent. Colorizing agents act to impart a desired color, while decolorizing agents "remove[], neutralize[], or convert[]" the undesired colors "by selective physical and/or chemical decolorizing." JA Ex. 2, '521 8:12-17. The patent calls these colorizing and decolorizing agents "glass coloring oxide agents." This term has a plain and obvious meaning to one skilled in the art of glassmaking, particularly in view of the references to such agents in the specification. *See, e.g., id.* 10:61-65 (listing "[p]referred colorizing agents" for amber); *id.* 15:45-47 (listing common "colorizing oxides" in mixed colored cullet that must be "complement[ed]" in order to create flint glass).

Once again, Defendant seeks to add three limitations that appear nowhere in the claim language and are inconsistent with the specification. *First*, Defendant's proposal would limit the term to "a selected virgin glass raw material." This is incorrect because colorizing agents are not added only in selected "virgin" raw materials; they are also present in the mixed colored cullet,

whose colored pieces of glass themselves contain significant amounts of colorizing agents. That is why the patent claims speak of “adjust[ing]” the “color contribution” of the unwanted color components of the mixed color cullet. *Id.* claim 1, step 7; *see also id.* 10:27-30 (discussing how, in making amber glass, the green pieces in the mixed colored cullet will “ha[ve] relatively high chromium oxide content” which must be “decolorized”); *id.* 12:32-34 (“Typical [mixed colored] cullet compositions . . . contain coloring oxides.”).

*Second*, Defendant proposes to limit the term to those agents that are “included [as raw materials] for the sole purpose” of providing a colorizing agent. This would also improperly narrow the scope of the claims because not all colorizing agents are *added* to the batch—as just described, some colorizing agents are *already present* in the mixed colored cullet. *See, e.g., id.* 10:27-30. Contrary to Defendant’s proposed construction, the colorizing agents that are present in the mixed colored cullet are not included for “the sole purpose” of providing a colorizing agent; they are, instead, included because they happen to be in the mixed colored cullet already.

*Third*, Defendant is incorrect that every glass coloring oxide agent must “provide[] an oxide.” The word “oxide” in this term refers to the structure of the glass, which “primarily contains oxides of sodium, calcium and silicon.” JA Ex. 2, ’521 1:36-37. The “agents” that colorize or decolorize this oxide-based glass are not always themselves oxides—as the specification indicates in certain examples. *E.g.,* JA Ex. 2, ’521 10:33-35 (“physical decolorizing agents” include “selenides”). Defendant’s proposal would add confusion by itself requiring a further construction of “oxide.”

**E. “Calculating . . . Glass Coloring Oxide Agent Levels and Key Glass Color Indicator Parameters” / “Calculating . . . A Composition”**

Claim Language	Green Mountain’s Proposed Construction	Defendant’s Proposed Construction
“calculating using said	No construction needed; in	“calculating <u>(not based on</u>

Claim Language	Green Mountain's Proposed Construction	Defendant's Proposed Construction
percentages and said percentage composition the desired glass coloring oxide agent levels and key glass color indicator parameters of glass of said particular color with said specified transmission properties;"	the alternative: "using the percentages identified in previous steps to calculate the glass coloring oxide agent levels and key glass color indicator parameters"	<u>process feedback after melting</u> ), using said percentages and said percentage composition, the desired glass coloring oxide agent levels and <u>the desired</u> key glass color indicator parameters of glass of said particular color with said specified transmission properties;"
('521 claims 1, 26, 28, 30) [STEP 6]		

Claim Language	Green Mountain's Proposed Construction	Defendant's Proposed Construction
"calculating a composition of said recycled finished glass, said composition including said percentages of said raw materials, said mixed color glass cullet, and amounts of said glass coloring oxide agents suitable to adjust final glass coloring oxide agent levels to said desired glass coloring oxide agent levels for glass of said particular color with said specified transmission properties,"	No construction needed; in the alternative: "calculating the amount of each ingredient, expressed as a percentage of the amount of the total batch"	"calculating ( <u>not based on process feedback after melting</u> ) a composition of said recycled finished glass, said composition including said percentages of said raw materials, said mixed color glass cullet, and amounts of said glass coloring oxide agents suitable to adjust, <u>in real-time</u> , final glass coloring oxide agent levels to said desired glass coloring oxide agent levels for glass of said particular color with said specified transmission properties,"
('521 claims 1, 26, 28, 30) [STEP 7]		

Steps 6 and 7 of the '521 patent's independent claims are "calculating" steps. First, in step 6, the glassmaker "calculates" the "glass coloring oxide agent levels and key glass color indicator parameters." Next, in step 7, the glassmaker "calculates" the complete batch formula (i.e., "composition") of the ingredients to be melted. These two steps do not add new concepts or terms—rather they are calculation steps that use terms identified earlier in the claim (and

discussed above, such as “transmission properties” and “glass coloring oxide agent”). As a result, this language needs no construction. Jurors will understand what “calculate” means.

Nor does Defendant propose a construction of the term “calculate,” but instead seeks to import two limitations into the claim language: (1) Defendant would limit the information that the glassmaker may consider in performing the calculation (by adding the limitation “not based on process feedback”); and (2) Defendant would limit the timing of the calculation (by adding the limitation “in real time”). Neither limitation is appropriate.

**1. No support exists for the “not based on process feedback after melting” limitation**

Defendant would limit the glassmaker from “basing” his calculations on “process feedback.” The phrase “process feedback” does not appear anywhere in the claims or specification, and the limitation is thus improper. In addition, “process feedback” in Defendant’s proposed construction adds complexity because that term itself would need to be construed.

In the Joint Claim Chart, Defendant points to the prosecution history, but that history does not disavow the use of “process feedback.” “In evaluating whether a patentee has disavowed claim scope, context matters.” *i4i Ltd. P’ship*, 598 F.3d at 843. Here, the context includes the open-ended term “comprising”—i.e., the patent claims a “method . . . *comprising* the steps of.” JA Ex. 2, ’521 claim 1 (preamble) (emphasis added). The word “comprising” means that the method may include additional steps not listed in the claims—including the step of obtaining information based on process feedback. *See Dippin’ Dots, Inc. v. Mosey*, 476 F.3d 1337, 1343 (Fed. Cir. 2007).

Viewed in that context—of a “comprising” claim—the statements to the Examiner indicated not that process feedback was *never performed*, but rather that the ’521 method

contained *something more*, specifically, a pre-melting calculation of what the recipe of ingredients in the batch should be:

Mosch [i.e., the '737 patent, which the Examiner had cited as prior art anticipating the '521 patent,] discloses a recipe for making glass of a particular color using unsorted mixed color cullet as a raw material but does not disclose a methodology for determining how much of each coloring and decolorizing material to use for a particular input glass batch which produces glass having designated output glass characteristics. Rather, Mosch [the '737 patent] applies the coloring and decolorizing materials to the glass batch, measures the transmission characteristics of the resultant glass product, and repeats the process until a recipe produces an acceptable glass product. . . .

In addition, rather than specifying the transmission characteristics prior to melting, Mosch [the '737 patent] simply measures the transmission characteristics of the finished glass and adjusts the next batch as appropriate until a “recipe” for the desired batch is found.

JA Ex. 6, '521 Prosecution History, Response to Office Action (Sept. 7, 1998) at A0129, A0133.

These statements distinguish the '521 patent's method from a trial-and-error process of glassmaking that does not perform *any* pre-melting calculation. This is not a “disavowal” of anything, but rather an accurate description of the '521 patent's breakthrough. *See Purdue Pharma*, 438 F.3d at 1136 (no “disavowal” where the statement described “a property of, or a result of,” the invention); *Creative Integrated Sys.*, 526 F. App'x at 934 (statement “describ[ing]” one “embodiment” of the invention “disavows nothing”).

The applicant's statement then goes on to note some positive aspects of the invented method—advantages that it holds over the '737 patent:

More specifically, the process of the invention allows the color and transmission characteristics of the final glass product to be designated *before melting* (not measured after the glass product is made as taught by Mosch [the '737 patent]) and for the amounts of colorants and decolorants added to the glass batch to be adjusted in real time (*i.e.*, not based on process feedback after melting) based on the characteristics and amount of input mixed color cullet.

JA Ex. 6, '521 Prosecution History, Response to Office Action (Sept. 7, 1998) at A0129–A0130 (first emphasis added). Contrary to Defendant's assertion, this sentence does not “disavow” the use of “process feedback”—the limitation Defendant seeks to add. Rather, this sentence again points out that one benefit of the '521 patent's method is to “allow” the glassmaker to avoid wholesale reliance on “process feedback.” A statement like this one—which merely notes one property of the claimed method—does not “disavow” all the other properties not so noted.

## 2. No support exists for the “in real time” limitation

Defendant also would limit step 7's language, “suitable to adjust final glass coloring oxide agent levels,” by adding the limitation “in real time.” This limitation, too, finds no support in the claim language or specification. In fact, the phrase “real time” does not appear anywhere in the claims or specification.

The language “suitable to adjust” was added to distinguish the patent's method from “batch compensation.” *Id.* at A0134 (“Applicant submits that ‘batch compensation’ does not provide such color *adjustment*.” (emphasis added)). “Batch compensation” is a previously known “technique for handling the variability of cullet colorant concentrations.” In the “batch compensation” technique, “if the cullet colorant levels are too low, more virgin colorants are added to ‘batch compensate’ to the desired colorant level . . . while if the cullet colorant levels are too high, the amount of cullet used . . . is reduced to ‘batch compensate’ to the desired colorant level.” *Id.* at A0131. The methods disclosed in the '737 and '521 patents are “distinct” from “batch compensation” because these methods instead teach “selectively adding decolorizing and coloring agents which adjust the glass color properties to compensate for the color impurities introduced by the cullet of the undesirable color.” *Id.* at A0128.

By distinguishing his invention from traditional “batch compensation,” the inventor did not thereby limit the scope of his invention to adjustments “in real time.” “Real-time” adjustments have nothing to do with “batch compensation.”

Defendant plucks the proposed “in real time” limitation from a different statement to the Examiner, quoted above in the discussion of “process feedback.” There, the inventor noted that one advantage of the ’521 patent was to enable the glassmaker to “adjust[]” the “amounts of colorants and decolorants added to the glass batch . . . in real time.” *Id.* at A0130. By pointing out this potential benefit, the inventor did not thereby limit the scope of the claims to only adjustments made “in real time.” Nor does this sentence *require* that the “amounts of colorants and decolorants” be “adjusted in real time.” *See Purdue Pharma*, 438 F.3d at 1136 (no “disavowal” where the statement described “a property of, or a result of,” the invention); *Creative Integrated Sys.*, 526 F. App’x at 934 (statement “describ[ing]” one “embodiment” of the invention “disavows nothing”).

**F. “Finished Glass Product” / “Recycled Glass Product”**

Claim Language	Green Mountain’s Proposed Construction	Defendant’s Proposed Construction
“finished glass product”  ’521 claims 3, 5, 7, 9, 11, 15	No construction needed; in the alternative: “a finished product of glass”	“recycled glass product”

Claim Language	Green Mountain’s Proposed Construction	Defendant’s Proposed Construction
“recycled glass product”  ’521 claims 1, 26, 28, 30	No construction needed; in the alternative: “a product made in part from recycled glass”	“finished glass product”

The terms “finished glass product” and “recycled glass product” are used in their plain and ordinary natural meaning, so no construction is required. Defendant proposes to construe these terms to be synonymous—a construction that is neither necessary nor appropriate.

The terms’ meanings do overlap to a degree—which is no surprise for a patent that teaches “[a] method of creating recycled glass products.” JA Ex. 2, ’521 claim 1 (preamble). But the overlap is not total. In places, the word “finished” is used to describe the state of glass at the end of the melting process. *E.g.*, JA Ex. 2, ’521 Patent claim 1, step 3 (“finished glass from which said recycled glass products are to be created”); *id.* claim 11 (calculating amounts of coloring agents that “are present in the proper proportion in the finished glass products”). Therefore, there is no need to define the two terms as synonymous in each and every usage. *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000) (presuming that “the use” of “different terms in the claims connotes different meanings”).

#### **IV. CONCLUSION**

For the foregoing reasons, the term “mixed colored cullet” should be construed as defined in the specifications: “broken pieces of glass of mixed colors.” JA Ex. 1, ’737 1:12-16; JA Ex. 2, ’521 1:11-12. The remaining terms require no construction. Their plain and ordinary meanings are clear.

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Respectfully submitted,

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